

If this bit pattern appears in the TP-PID of the header SM-IP of an SMS short message SM sent by a cellular phone, then, e.g., in the case of the bit pattern <01000001>, the SMSC is caused to overwrite an already present short message of the same cellular phone with the received short message.

The MMS service is intended to permit the transmission and reception of multimedia messages, using a cellular phone. The current (temporary) state of standardization of MMS is found in 3G TS 23.140, MMS Stage 2, v.1.0.0. In contrast to an SMS short message, a multimedia message (MM) should not be limited to a certain length or to the display of only text. An MM should instead support various types of media.

The MMS relay has a central function in the MMS service. As shown in 3G TS 23.140, MMS Stage 2, v.1.0.0, this element may be connected to various servers (e.g. an email server, fax server, voice mailbox, and MMS server), using a large variety of media. Its purpose is to grant the mobile user access to all of the information/messages on the above-mentioned servers.

Thus, the MMS relay allows the mobile user access to e-mails on the e-mail server, or to faxes stored on a fax server, or to voice messages recorded in a voice mailbox, etc. Aside from the receipt of messages, the mobile user may write messages and send them to the desired recipient via the MMS relay.

3G TS 23.140, MMS Stage 2, v.1.0.0, provides for, inter alia, the user of the MMS service logging on to his MMS service provider (session establishment). The user may then obtain a receipt for the log-on (receipt), depending on a service profile. If the MMS server contains unread messages for the user, then the user may receive a message (notification) in accordance with his/her service profile.

In this regard, an MMS server may stand for one or more arbitrary servers, e.g., one or more e-mail servers, fax servers, special MMS servers (if an independent MM format is standardized), or an arbitrary combinations of these servers.

In the same way, the user may receive a message in accordance with his/her service profile, when a new message arrives at the MMS server during an MMS session.

If his/her profile is set up so that the user does not automatically receive notification of unread and/or new MM messages, then, according to the specification, the MMS service should allow the user to explicitly request such a notification from the MMS relay (explicit notification query).

In the service profile, the user may also specify whether he/she would like to receive a confirmation of the success of transmitting the MM's to other users from the service provider. In this connection, one may distinguish between two types.

The user may receive a reply from the MMS relay indicating that his/her sent message was successfully sent to the relay via the air interface:

(ACK/NACK submission 1: positive/negative acknowledgment of submission to relay).

In addition, the user may receive a reply from the receiver and/or from the MMS relay indicating that the receiver successfully received the message:

ACK/NACK submission 2=positive/negative end-to-end acknowledgment of submission to receiver.

The MMS service should also optionally permit the service provider (the MMS relay) to receive a reply regarding the success/failure of the delivery of an MM to a subscriber:

ACK/NACK delivery.

3G TS 23.140, MMS Stage 2, v.1.0.0, 3GPP TSG T WG 2, November 1999, also provides for the triggering of automatic downloading of messages by an SMS (pull-push).

The above-described functionality and messages regarding the MM are written in the applications level, but their implementation is open. This functionality and the messages, as well as similar functionality and messages, may be implemented in many different forms.

It is believed that a general problem is that, in the MMS message service, different types of messages are sent, such as the above-mentioned notifications from the system and actual user messages, whereby the latter may be varied in content, for example, short text messages or long video, audio, or other messages. As a result, it is believed that there is no transmission scheme that is equally optimized for all messages.

SUMMARY OF THE INVENTION

An object of an exemplary embodiment according to the present invention is that predetermined messages of the first message service are sent using messages of the second message service.

It is believed that an exemplary method according to the present invention has an advantage in that an optimized transmission scheme may be maintained for the dedicated messages of the first message service.

With respect to an exemplary method according to the present invention, the SMS message service selects a transmission scheme that provides for simple sending for the dedicated messages in the MMS. Therefore, line-oriented transmission, e.g., using GSM circuit switched data or GPRS general packet radio service or UMTS circuit or packet switched data that are associated with much overhead for setting up a connection/session, may be dispensed with.

An exemplary method according to the present invention provides for messages of the second message service to be sent between the transmitter and the receiver without line-oriented transmission.

According to another exemplary method of the present invention, a dedicated, second group of messages of the first message service is sent between the transmitter and the receiver, using line-oriented transmission.

Yet another exemplary method according to the present invention provides for the first message service to include a multimedia message service, for example, the MMS message service, and/or provides for the second message service to include a short message service, for example, the SMS message service.

Still another exemplary method according to the present invention provides for the first message service to include the MMS message service and the second message service to include the SMS message service. In this context, the dedicated, first group of messages of the first message service includes at least one of the following messages:

- dedicated MMS user messages (e.g. short text messages).
- notification of the presence of a message on the MMS server (notification).
- logging on to an MMS session (session establishment).
- receipt for this log-on (receipt).
- explicit request for a notification from the MMS relay (explicit notification query).
- confirmation of the reception of sent MM's in the relay (ACK/NACK_submission_1).
- confirmation of the success in sending an MM's to other users (ACK/NACK_submission_2).
- acknowledgment of the success/failure in delivering an MM (ACK/NACK_delivery).